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In the Claims:

1. (Currently Amended) A method for manufacturing a combustion chamber of a gas-turbine engine, comprising:

 casting a plurality of individual wall sections from a same highly-temperature resistant nickel-based casting alloy;

 joining the individual wall sections by laser welding to make up the combustion chamber;

 wherein the welded joints have a thermo-mechanical strength substantially the same as the individual wall sections.
2. (Original) The method of claim 1,

 wherein the individual cast wall sections are annular/circular segments of the combustion chamber.
3. (Cancelled)
4. (Cancelled)
5. (Previously Presented) The method of claim 2,

 wherein the laser welding is performed without filler material.
6. (Previously Presented) The method of claim 5,

 wherein the laser welding inputs low energy to the wall sections.
7. (Previously Presented) The method of claim 6,

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wherein the laser welding is performed with a diode laser.

8. (Previously Presented) The method of claim 7,

wherein the laser welding provides a crack-free joint between cast wall sections.

9. (Previously Presented) The method of claim 8,

wherein the highly-temperature resistant nickel-based casting alloy is C1023.

10. (Previously Presented) The method of claim 1,

wherein the laser welding is performed without filler material.

11. (Previously Presented) The method of claim 1,

wherein the laser welding inputs low energy to the wall sections.

12. (Previously Presented) The method of claim 1,

wherein the laser welding is performed with a diode laser.

13. (Previously Presented) The method of claim 1,

wherein the laser welding provides a crack-free joint between cast wall sections.

14. (Previously Presented) The method of claim 1,

wherein the highly-temperature resistant nickel-based casting alloy is C1023.

15. (Previously Presented) The method of claim 2,

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wherein the highly-temperature resistant nickel-based casting alloy is C1023.

16. (Previously Presented) The method of claim 15,

wherein the laser welding is performed without filler material.